

Work Order ID 143995

Tuesday, March 29, 2016 11:00:51 AM

143995

Page 1

Item ID: D4306-045 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Rib Assembly
 Start Date: 3/30/2016 Start Qty: 2.00 ***2*** Cust Item ID:
 Required Date: 4/8/2016 Req'd Qty: 2.00 ***2*** Customer:
 Reference:

Approvals: Process Plan: MCS Date: MAR 29 2016 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D4306	C

100 Weld per dwg A/R S.S. rod Batch: B133750 0.00

100

Large Fab 2x CC 16-4-11

Large Fab

Memo 0.00

1- Cut tube 50"
 2- Bend tube with manuel pipe bender as per DT9567
 *** Make line at 9.00" and use jig for other lines, and ensure seam in place on side of tube when bending***
 3- Trim access tube material to finish size as per dwg D4306-5
 4- Drill and chamfer holes as per dwg D4306-5 using DT9710
 5- weld bushing as per dwg D4306
 6- grind welds flush

110 QC6- Inspect dimensions to drawing 0.00

110

QC 2x 9-89 DAS 43

Quality Control APR 11 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

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Page 2

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC10- Inspect visual per QSI004- ground welds Memo	0.00 0.00				<u>2x</u>		DAS 43 9-89	APR 11 2016
130 *130* Packaging Packaging	Identify as per dwg & Stock Location: <u>W/A</u> <u>004</u> Memo LOCATION: WA004	0.00 0.00				<u>2x</u>	<u>CC</u>	<u>16-4-11</u>	
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00				<u>MCS</u>		APR 12 2016	

APR 12 2016

MCS

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
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Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
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Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

Picklist Print

Tuesday, March 29, 2016 11:00:54 AM

Page 1

Work Order ID: 143995

143995

Parent Item: D4306-045

D4306-045

Parent Item Name: Rib Assembly

Start Date: 3/30/2016

Required Date: 4/8/2016

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP Rev:A 11.01.20 new issue DD verf:EC
11.03.03 AS PER DWG REV.C DD verf:EC

IPP Rev:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3759-1 / *D3759-1* Bushing		Manufactured	No			100	Each	116.0000	4	8			
										**	CC 16-4-11		

Location

Loc Qty

Loc Code

WA004

116

141444

116

M304TS0.750W.049

Purchased

No

100

f

616.3500

4.166

8.770526

M304TS0 750W 049

304 SQ Tube .75x.75x.049W

**

CC 16-4-11

Location

Loc Qty

Loc Code

WA004

616.349968

M133762

1.649968

M134172

114.7

M134263

300

M134506

200

9

DQA: _____ Date: _____



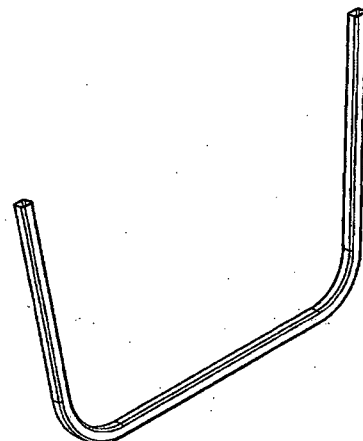
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

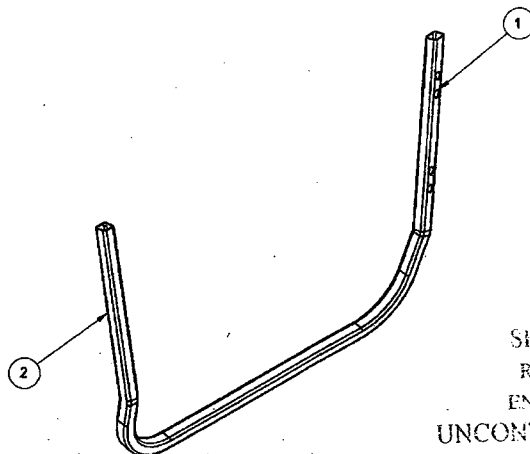
Work Order update only ☐

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Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
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								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause				FAULT CATEGORY					
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐				Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
OTHER : ☐									

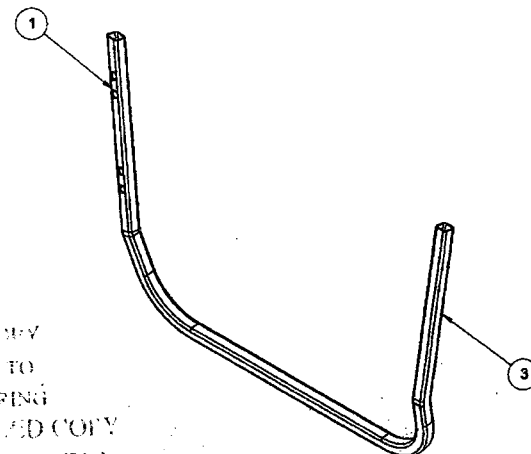
ITEM	QTY -043	QTY -044	QTY -045	P/N	DESCRIPTION
	X			D4306-043	RIB ASSY, LH
		X		D4306-044	RIB ASSY, RH
			X	D4306-045	RIB ASSY
1	4	4	4	D3759-1	BUSHING
2	1			D4306-3	RIB
3		1		D4306-4	RIB
4			1	D4306-5	RIB



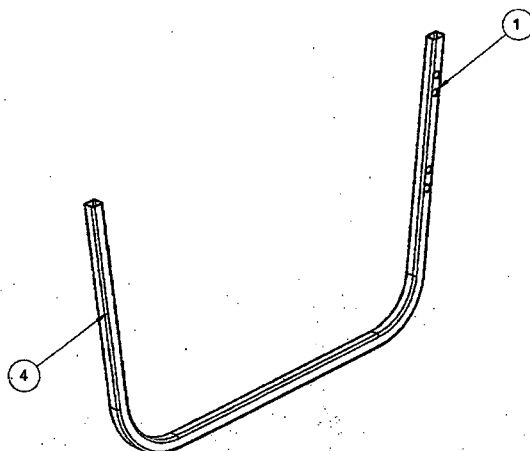
D4306-1 RIB



D4306-043 RIB ASSY, LH



D4306-044 RIB ASSY, RH



D4306-045 RIB ASSY

SHOP COPY
RETURN TO
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UNCONTROLLED COPY
SUBJECT TO REWORK

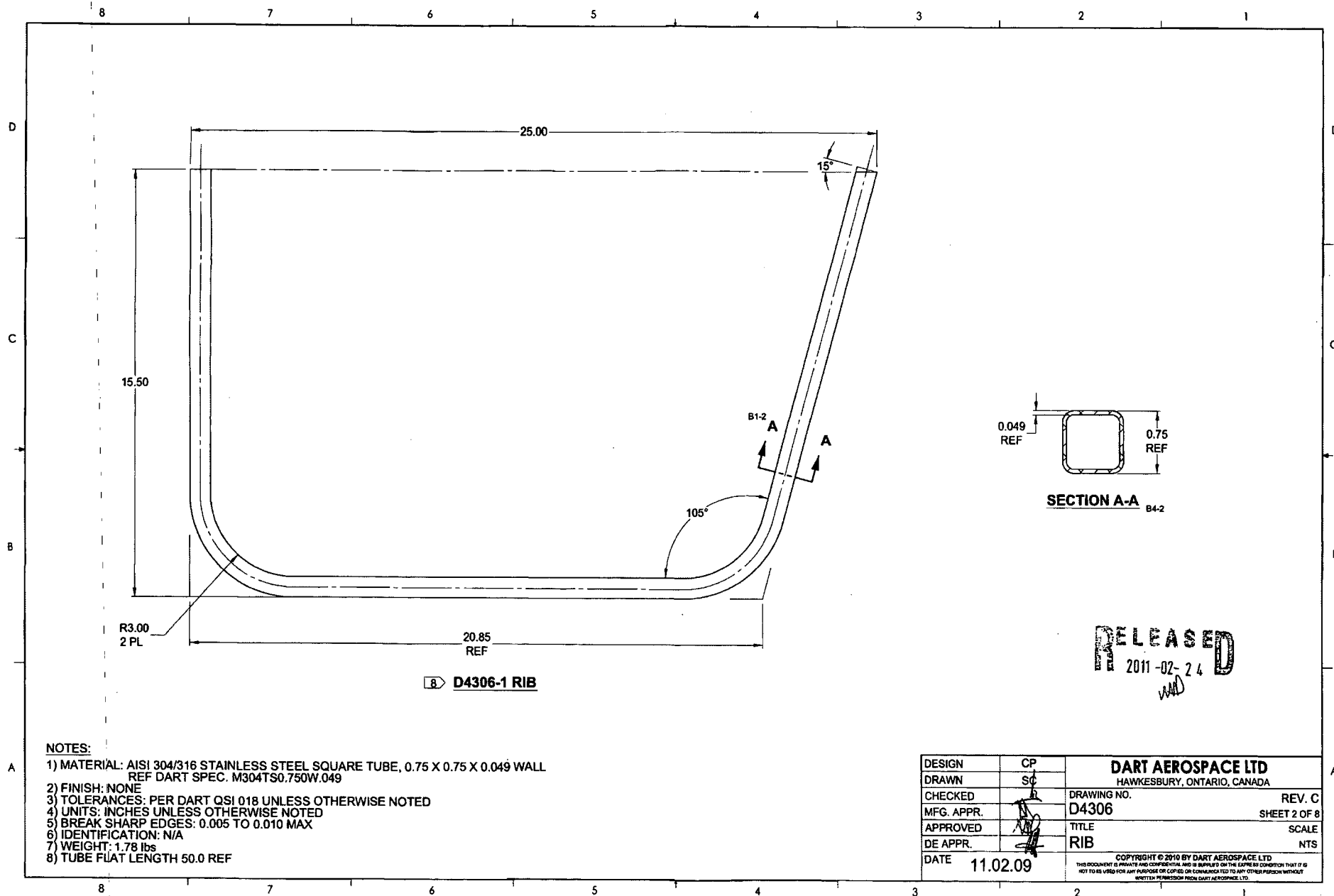
WITHOUT NOTICE
WORK ORDER
NO. 143995 MLC

16-03-29

RELEASED
2011-03-10

REV.	DESCRIPTION	BY	DATE
C	REFERENCE LENGTH CHANGED TO 52.0" FOR D4306-3, D4306-4 RIBS (A7-4-6); INCREASED LENGTH OF D4306-3, D4306-4 RIBS BY 0.85" (C7-4, C8-4, C1-6, C2-6); CHANGED CUT ANGLE FROM 19° TO 22° (B8-4, B1-6); ADDED 4.50" REF DIM ON D4306-043/044 (B6-3, B3-6)	SC	11.02.09
B	D4306-043, D4306-044, D4306-045 ADDED	SC	10.12.17
A	NEW ISSUE	CP	10.11.29
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D4306 TITLE RIB SCALE NTS SHEET 1 OF 8 REV. C DATE 11.02.09	
DRAWN	SC		
CHECKED	SC		
MFG. APPR.	SC		
APPROVED	SC		
DE APPR.	SC		

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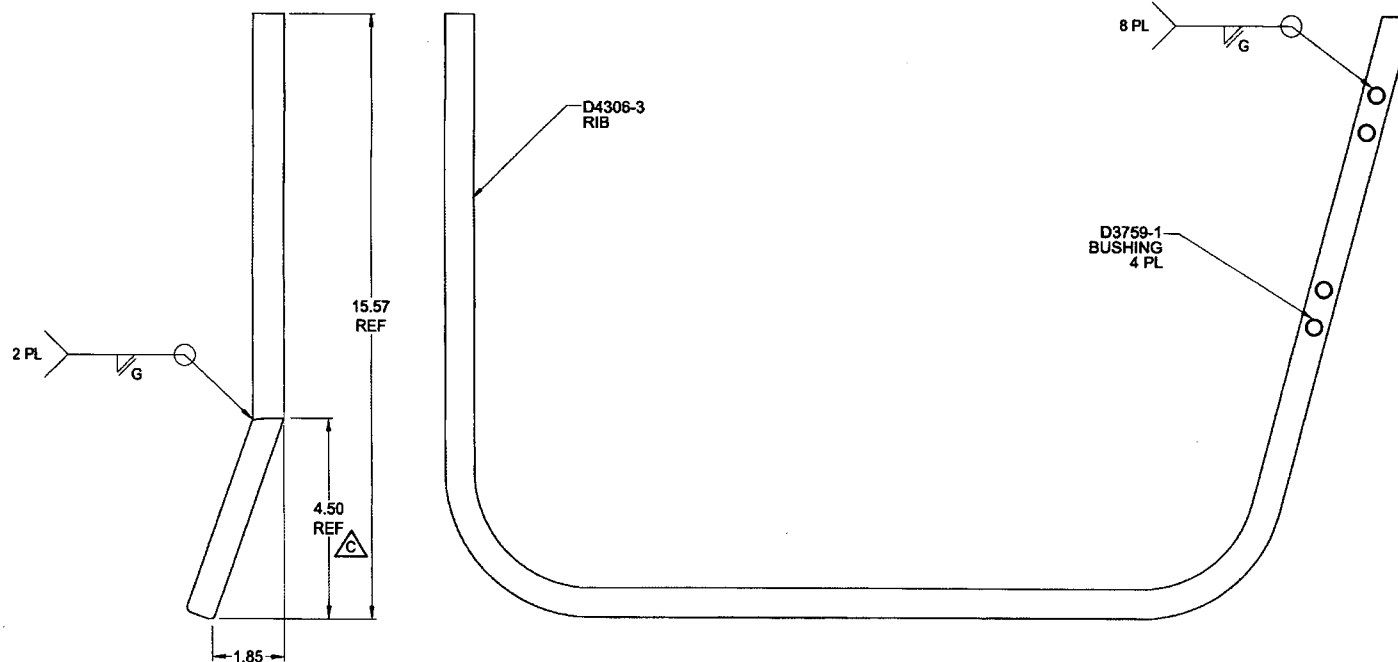


RELEASED
2011-02-24
WMD

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SQUARE TUBE, 0.75 X 0.75 X 0.049 WALL
REF DART SPEC. M304TS0.750W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.78 lbs
- 8) TUBE FLAT LENGTH 50.0 REF

DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4306	SHEET 2 OF 8
APPROVED		TITLE	SCALE
DE APPR.		RIB	NTS
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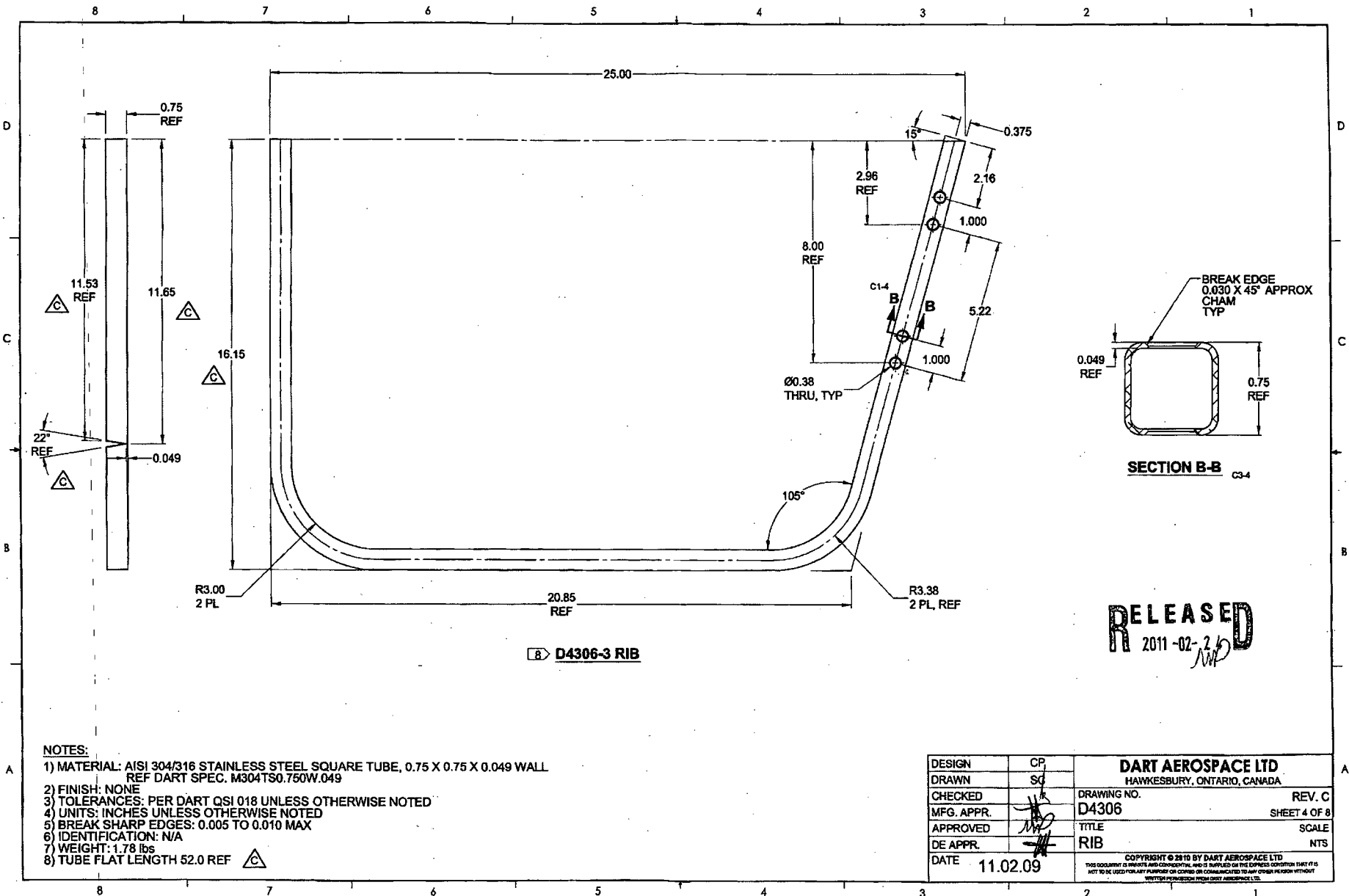
D4306-043 RIB ASSY, LH

RELEASED
2011-02-24
AND

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.78 lbs
- 8) WELDING: PER DART QSI 004

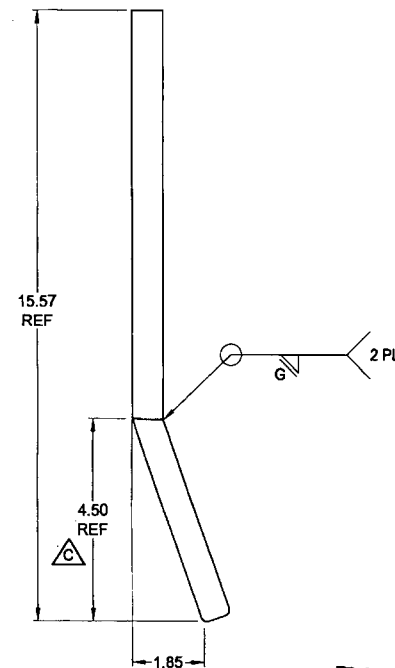
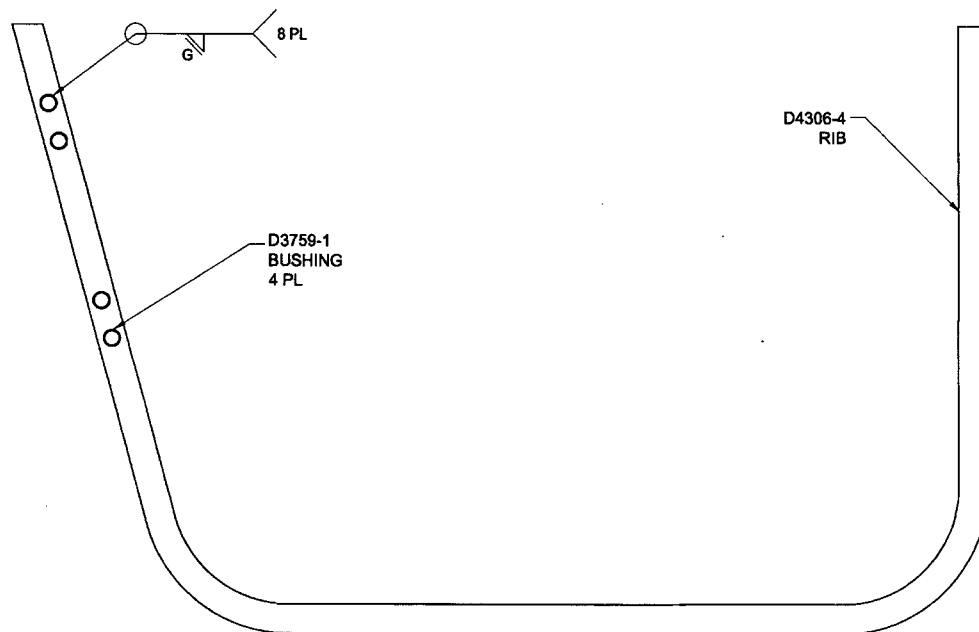
DESIGN	CP	DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4306	SHEET 3 OF 8
APPROVED		TITLE	SCALE
DE APPR.		RIB	NTS
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NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SQUARE TUBE, 0.75 X 0.75 X 0.049 WALL
REF DART SPEC. M304TS0.750W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
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- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.78 lbs
- 8) TUBE FLAT LENGTH 52.0 REF

DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO. D4306	REV. C
MFG. APPR.			SHEET 4 OF 8
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DE APPR.			NTS
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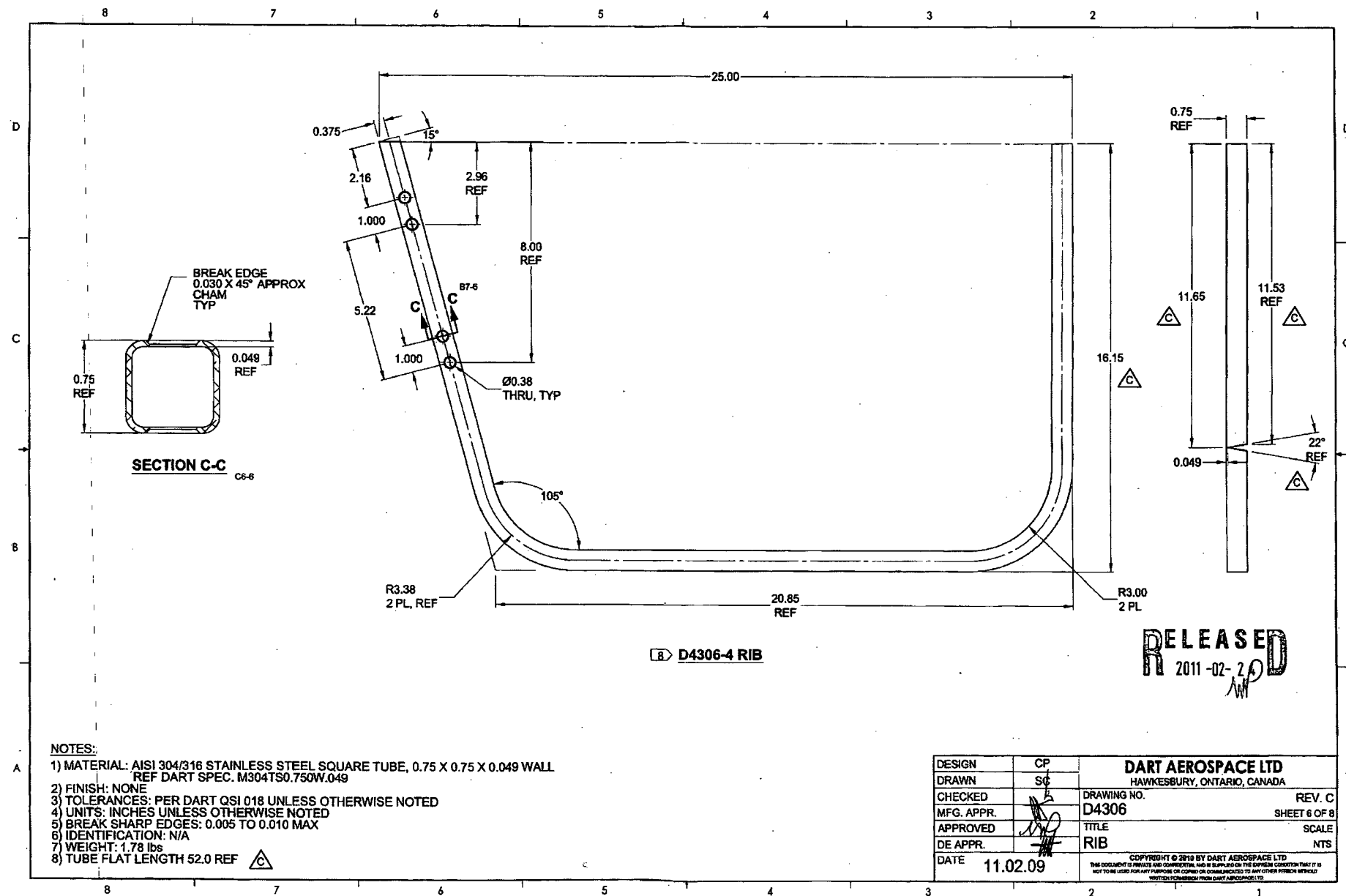
D4306-044 RIB ASSY, RH

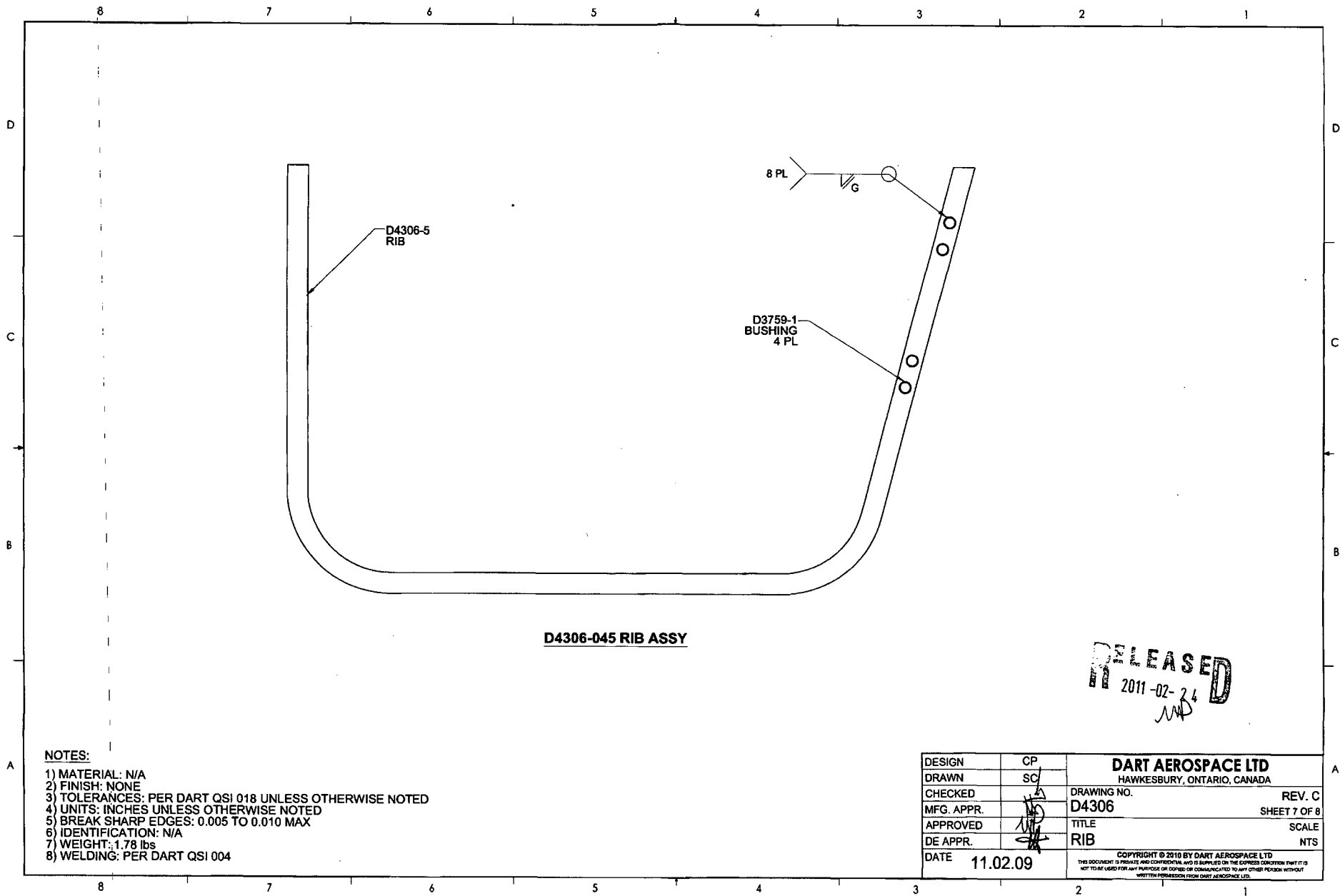
RELEASED
2011-02-24
MP

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- 8) WELDING: PER DART QSI 004

DESIGN	CP	DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	h	DRAWING NO.	REV. C
MFG. APPR.		D4306	SHEET 5 OF 8
APPROVED		TITLE	SCALE
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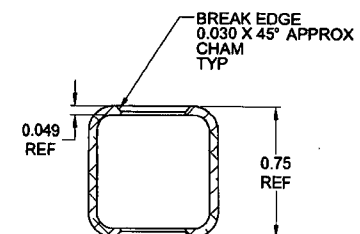
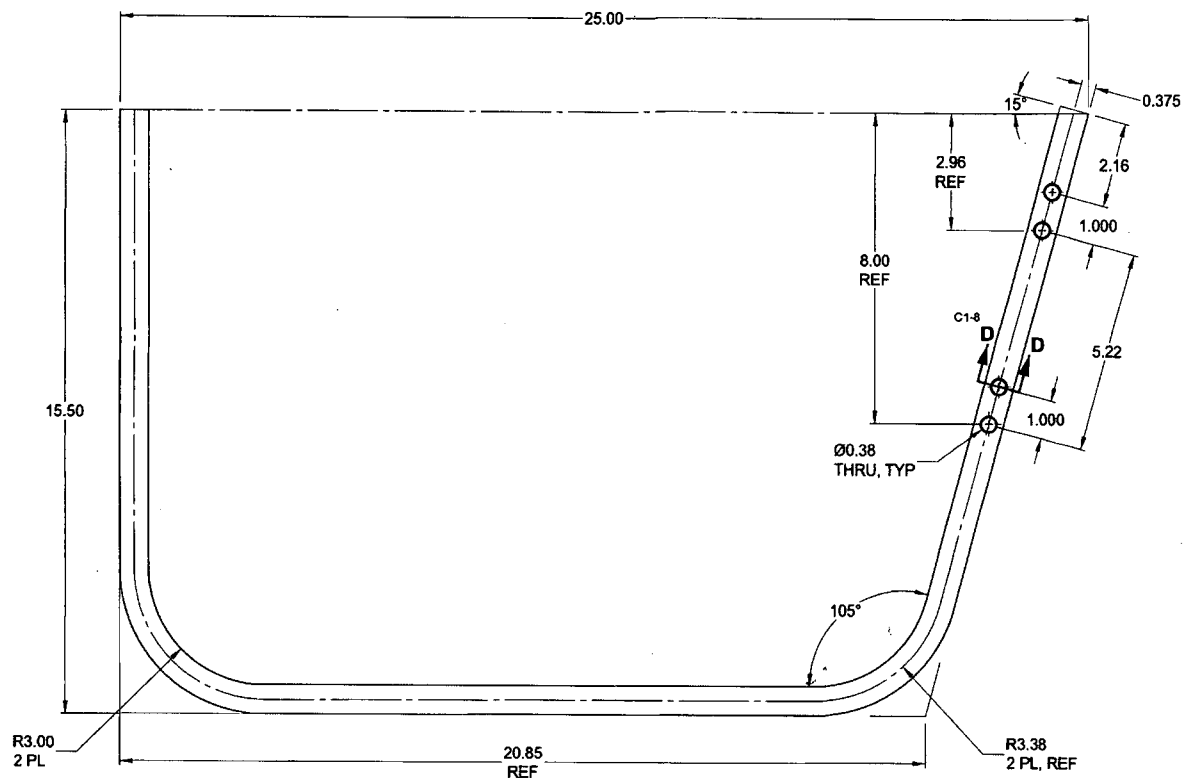


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DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED	✓	DRAWING NO.	REV. C
MFG. APPR.	✓	D4306	SHEET 7 OF 8
APPROVED	✓	TITLE	SCALE
DE APPR.	✓	RIB	NTS
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RELEASED
2011-02-24
MB



SECTION D-D C3-8

RELEASED
2011-02-24

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- 8) TUBE FLAT LENGTH 50.0 REF

DESIGN	CP	DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D4306	SHEET 8 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	RIB	NTS
DATE	11.02.09	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
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